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#02557 SH-701VSC

USER'S MANUAL

8-port VLAN Switch
User's Guide

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P/N:17000081

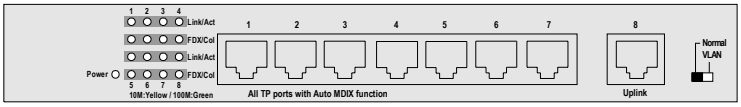
1. Introduction

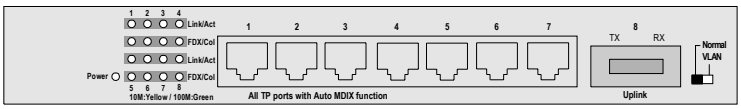
This 8port Switch is an 8-port 10/100Mbps Ethernet switch. This switch supports the advanced features for current switch design. This switch can auto detect the 10/100Mbps speed, full/half duplex mode and MDI/MDI-X connection. This feature provides user the simplest way to complete the network connection.

The VLAN setting of the 8port Switch is very simple. If the switch on the front panel is set to "Normal", VLAN is disable. But if the switch on the front panel is set to "VLAN", per-port VLAN is enable and Port 8 will be the common port for uplink or Internet connection. This design is very easy for users to setup their VLAN.

This 8port Switch also supports QoS function for advanced network application. This switch can process tagged and untagged packets and supports long Ethernet packet up to 1522 bytes.

There are two models for the 8port Switch. One has 8* TX ports. Another one has a 100BaseFX port for fiber optic connection and 7* TX ports.





1.1 Package Contents

- One 8port Switch
- One AC power cord
- This user's guide

2. Where To Place the 8port Switch

This 8port Switch can be placed on a flat surface (your desk, shelf or table).

Place the 8port Switch at a location with these connection considerations in mind:

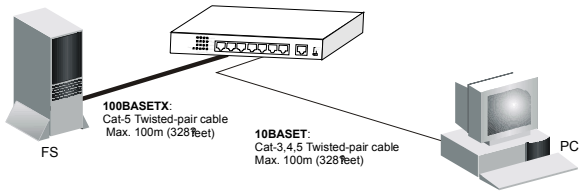
- The switch configuration does not break the rules as specified in Section 3.
- The switch is accessible and cables can be connected easily to it.
- The cables connected to the switch are away from sources of electrical interference such as radio, computer monitor, and light fixtures.
- There is sufficient space surrounding the switch to allow for proper ventilation (the switch may not function according to specifications beyond the temperature range of 0 to 50 degrees C).

3. Configure the Network Connection

3.1 Connecting Devices to the 8port Switch

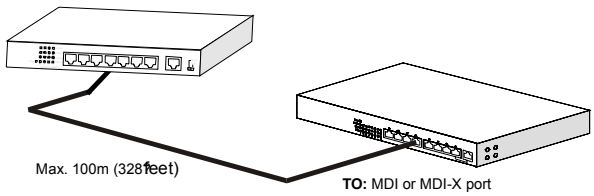
[Connection Guidelines:]

- Use Category 3 or 5 twisted-pair Ethernet cable when connecting 10BaseT devices to the switch (cable pin assignments defined in Appendix A)
- Use Category 5 (straight-through) twisted-pair Ethernet cable when connecting 100BaseTX devices to the switch (cable specifications are defined in Appendix B)
- Always limit the cable distance to 100 meters (328 ft) as defined by IEEE specification
- If your switch has a FX port, you can connect long distance fiber optic cable to the switch.
- Because this switch supports **Auto MDI/MDI-X** detection, you can use normal straight through cable for both workstation connection and hub/switch cascading.



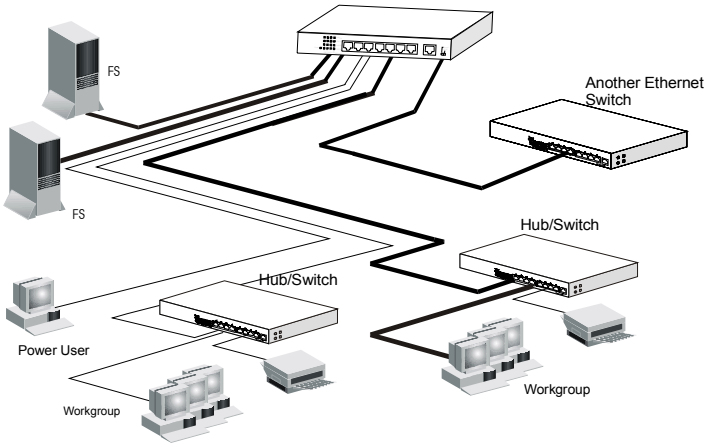
3.2 Connecting to Another Ethernet Switch/Hub

This 8port Switch can be connected to existing 10 Mbps or 100 Mbps hubs/switches. Because all the TP ports on the 8port Switch are Auto MDI/MDI-X, you can connect from any TP port of the 8port Switch to the MDI or MDI-X port of another hub/switch with Straight Through or crossover cables.



3.3 Application

A switch can be used to overcome the hub to hub connectivity limitations as well as improve overall network performance. Switches make intelligent decisions about where to send network traffic based on the destination address of the packet. As a result, the switch can significantly reduce unnecessary traffic.
The example below demonstrates the switch ability to segment the network. The number of nodes on each segment is reduced thereby minimizing network contention (collisions) and boosting the available bandwidth per port.



4. LEDs Conditions Definition

4.1 LEDs Defined

The LEDs provide useful information about the switch and the status of all individual ports.

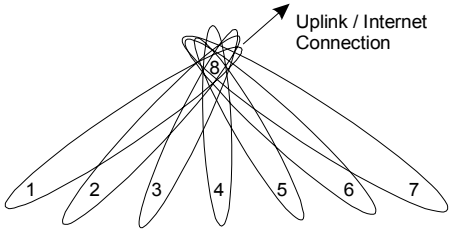
LED	STATUS	CONDITION
Power	ON	Switch is receiving power.
Link / Act	ON	Port has established a valid link.
	Flashing	Data packets being received or sent.
	Green	The connection speed is 100Mbps.
	Yellow	The connection speed is 10Mbps.
FDX / Col	ON	The connection is Full Duplex.
	Flashing	Packet collisions occurring. A low level of collision is a part of normal Ethernet Operation.

5. About VLAN and QoS

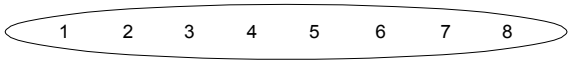
5.1 VLAN

The VLAN setting of a switch can divide the switch to several switching segments. The network connections on different VLANs can not send or receiver data from each other. Even broadcast packets can not be transferred between VLANs. So, the VLAN function is often used for user's security application.

This 8port Switch can be set to no VLAN or per-port VLAN by a switch on the front panel. If the switch is set to "Normal", no VLAN is set in the 8port Switch. If the switch is set to "VLAN", per-port VLAN is set in the 8port Switch. In this case, Port (1,8), (2,8), (3,8), (4,8), (5,8), (6,8), (7,8) are in different VLANs and Port 8 is the



common port for uplink or Internet connection. But the data transfer between Port 1, 2, 3, 4, 5, 6, 7 are impossible for such configuration. If you want to open the data transfer between every port, please set the switch to "Normal" and all the ports can send/receive data from each other.



Note: Please reboot the switch after the VLAN setting is changed to make the new setting take effect.

5.2 QoS

In new network application, there is tag in the Ethernet packet. The tag contains VLAN and priority information of the packet. This 8port Switch can process both tagged and untagged packets. If there is tag in Ethernet packets, it can transmit the packet according to the priority of the packet in tag.

There are 4 transmit queues for each port of the 8port Switch. This 8port Switch can transfer packets according to the priority of the packet to meet the "Quality of Service"

request in the network. It is very important for multi-media data (for example: movie, music and vioce) transfer in network.

A. Product Specifications

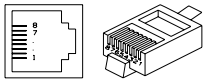
Access Method	CSMA/CD, 10 Mbps or 100 Mbps
Standards Conformance	IEEE 802.3 10BASE-T, IEEE 802.3u 100BASETX/FX
Communication Rate	10/100Mbps on RJ-45 ports, 100Mbps on FX port
Communication Mode	Full / Half duplex
Media Supported	*10BASE-T* - 100 Ohm Category 3,4,5 twisted-pair *100BASE-TX* - 100 Ohm Category 5 twisted-pair *100BASE*-FX - fiber optic cable
Indicator Panel	LEDs for Power (each unit), Link/Act, FDX/Col. (each port)
Number of Ports	8* RJ45 TX ports, or 7* RJ45 TX ports + 1* SC 100BaseFX port
MDI-X/MDI Selection	Auto detect
Dimensions	251 x 118 x 37 mm
Certification	CE Mark
Emissions	FCC Class A
Immunity	IEC 1000-4-2/3/4
Power Consumption	6Watts max.
Input Power	Full range: 100 to 240V, 50 to 60 Hz
Temperature	Standard Operating: 0 to 50℃ Storage: -40 to 70℃
Humidity	5% to 95% (Non-condensing)
Network Bridging Function	Filtering, forwarding and learning
Switching Method	Store-and-forward
Address Table	2K entries
Filtering/Forwarding Rate	Line speed
VLAN	No VLAN or Per-port VLAN, set by a switch
QoS	4 queues per ports

B. Cable Specification

Two different types of cable could be used on this 8port Switch:

- Straight through cable
- Cross-over cable
- Fiber Optic cable if this 8port Switch has FX port

Cable Schematics



Straight-Through Cable						
Hub / Switch side				Adapter side		
	Pin #	Pair #			Pin #	Pair #
1	RX+	White-Green	----------	1	RX+	White-Green
2	RX-	Green	----------	2	RX-	Green
3	TX+	White-Orange	----------	3	TX+	White-Orange
4	Not Used	Blue	----------	4	Not Used	Blue
5	Not Used	White-Blue	----------	5	Not Used	White-Blue
6	TX-	Orange	----------	6	TX-	Orange
7	Not Used	White-Brown	----------	7	Not Used	White-Brown
8	Not Used	Brown	----------	8	Not Used	Brown

Cross-Over Cable						
Hub / Switch side				Hub / Switch side		
	Pin #	Pair #			Pin #	Pair #
1	RX+	White-Green	-----------	1	RX+	White-Green
2	RX-	Green	-----------	2	RX-	Green
3	TX+	White-Orange	-----------	3	TX+	White-Orange
4	Not Used	Blue		4	Not Used	Blue
5	Not Used	White-Blue		5	Not Used	White-Blue
6	TX-	Orange	-----------	6	TX-	Orange
7	Not Used	White-Brown		7	Not Used	White-Brown
8	Not Used	Brown		8	Not Used	Brown

C. Compliances

EMI Certification

FCC Class A Certification (USA)

Warning: This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A digital device pursuant to Subpart B of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures are required to correct the interference.

Canada Department of Communications - Class A

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Department of Communications.

CE Mark Declaration of Conformance for EMI and Safety (EEC)

This is to certify that this product complies with ISO/IEC Guide 22 and EN45014. It conforms to the following specifications:

EMC:	EN55022(1988)/CISPR-22(1985)	class A
	EN60555-2(1995)	class A
	EN60555-3	
	IEC1000-4-2(1995)	4kV CD, 8kV AD
	IEC1000-4-3(1995)	3V/m
	IEC1000-4-4(1995)	1kV - (power line), 0.5kV - (signal line)

This product complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC.

Warning! Do not plug a phone jack connector in the RJ-45 port. This may damage this device.

D. Warranty

We warrant to the original owner that the product delivered in this package will be free from defects in material and workmanship for a period of warranty time from the date of purchase from us or the authorized reseller. The warranty does not cover the product if it is damaged in the process of being installed. We recommend that you have the company from whom you purchased this product install it.